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EXAMINER	
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ART UNIT	**PAPER NUMBER**
2626	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/608,002	SASAKI ET AL.	
	Examiner	Art Unit	
	James S. Wozniak	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 June 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-58* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-58* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 June 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to because the term "voice recognition" is misused for what nowadays is called --**speech recognition**-- in the speech signal processing art *(for example, Fig. 1, Element 10)*. While "voice recognition" and "speech recognition" were both once used interchangeably to refer to spoken word recognition, nowadays these two terms are distinguished. The term "**voice** recognition" now denotes identification of ***who*** is doing the speaking (class 704/246), while "**speech** recognition" (or "**word** recognition") denotes identification of ***what*** is being said (class 704/251). So, appropriate correction to the proper terms of art is required.

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the provincialism recognition unit, robot head, camera, plurality of camera, microphone, plurality of directional microphones must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure

must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because the term "voice recognition" is misused for what nowadays is called **--speech recognition--** in the speech signal processing art. While "voice recognition" and "speech recognition" were both once used interchangeably to refer to spoken word recognition, nowadays these two terms are distinguished. The term "**voice** recognition" now denotes identification of ***who*** is doing the speaking (class 704/246), while "**speech** recognition" (or "**word** recognition") denotes identification of ***what*** is being said (class 704/251). So, appropriate correction to the proper terms of art is required.

Claim Objections

4. **Claims 3-57** are objected to because of the following informalities:

Claims 3-57 are objected to because the term "voice recognition" is misused for what nowadays is called **--speech recognition--** in the speech signal processing art. While "voice recognition" and "speech recognition" were both once used interchangeably to refer to spoken word recognition, nowadays these two terms are distinguished. The term "**voice** recognition" now denotes identification of ***who*** is doing the speaking (class 704/246), while "**speech** recognition" (or "**word** recognition") denotes identification of ***what*** is being said (class 704/251). So, appropriate correction to the proper terms of art is required.

In claim 48, line 4, "said use" should be changed to –said user--.

In claim 51, line 1, "claim 44" should be changed to --claim 49-- in order to provide proper antecedent basis for "said attribute".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. **Claim 49** is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. More specifically, Claim 49 recites the term "user's figure," which is not defined in the

specification. It appears, however, that this term is referring to at least one of a plurality of user attributes as defined on page 10 of the specification. The examiner will thus interpret "user's figure" as corresponding to a least one of the user attributes listed on Page 10 of the specification for the application of the prior art of record.

7. **Claims 54-57** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. More specifically, claims 54 and 55 respectively disclose the disposal of cameras and directional microphones around a robot's head, however the specification does not disclose how the cameras or microphones are situated around a robot's head. The specification also fails to even mention a robot's head. Thus, claims 54-55 fail to comply with the written description requirement. The dependent claims fail to overcome this requirement, and thus, are also rejected under 35 U.S.C. 112, first paragraph.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. **Claims 56-57** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 56 and 57 recite the limitation "said robot directs in front of said user's face". It is uncertain what is meant by such a limitation (i.e., what a robot is directing or how it directs in front of a user's face). The examiner has interpreted this limitation as corresponding to determining that the front of a user's face is directed to a system (see specification, Page 39) for the application of the prior art of record.

Claim Rejections - 35 USC § 101

10. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

11. **Claims 1-58** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 1 is drawn to an interactive computer system capable of dialog execution and analysis. In order for a claimed invention to be considered statutory under 35 U.S.C. 101, it must be useful and accomplish a practical application. That is, it must produce a "useful, concrete and tangible result" *(State Street, 149 F.3d at >1373-74<, 47 USPQ2d at 1601-02)*. Although the final result of Claim 1 appears to be such a tangible result *(output of an answer or statement)*, Claim 1 only recites an answer output signal issued by an evaluation unit processor and not the actual tangible spoken answer played from a speaker using a speech synthesizer. As such, claim 1 is directed to non-statutory subject matter. The dependent claims fail to overcome the 35 U.S.C. 101 rejection directed towards independent claim 1, and thus, are also directed to non-statutory subject matter.

Claim 58 is drawn to a "program" *per se* as recited in the preamble and as such is non-statutory subject matter. See MPEP § 2106.IV.B.1.a. Data structures not claimed as encoded in computer readable media are descriptive material *per se* and are not statutory because they are not capable of causing functional change in the computer. See, e.g., *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure *per se* held nonstatutory). Such claimed data structures do not define any structural and functional interrelationships between the data structure and other claimed aspects of the invention, which permit the data structure's functionality to be realized. In contrast, a claimed *computer readable medium encoded* with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory. Similarly, computer programs claimed as computer listings *per se*, i.e., the descriptions or expressions of the programs are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer, which permit the computer program's functionality to be realized. Also, the above lack of a tangible result applied to Claim 1 applies to Claim 58 as well.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13. **Claims 1-12, 15-16, 19-21, 32, 37-43, 48-51, 53-54, 56, and 58** are rejected under 35 U.S.C. 103(a) as being unpatentable over Strubbe et al *(U.S. Patent: 6,721,706)* in view of Marx et al *(U.S. Patent: 6,173,266)*.

With respect to **Claims 1 and 58**, Strubbe discloses:

Recognition unit for recognizing said question *(recognizing an input utterance, Col. 21, Line 62- Col. 22, Line 36; wherein the utterance corresponds to a question, Col. 16, Line 51- Col. 17, Line 6)*;

A selection unit for selecting said answer *(response generator, Col. 27, Line 41- Col. 28, Line 12)*;

An evaluation unit for evaluating a dialog between said user and system *(processor for monitoring dialog content from multiple input sources, Col. 27, Lines 4-20; Col. 29, Line 28- Col. 30, Line 43; and Col. 31, Lines 19-42)*; and

An output unit for outputting said answer or a statement for continuing or ending said dialog *(text-to-speech converter for generating a spoken response, Col. 25, Line 53- Col. 26, Line 18)*.

Strubbe further discloses system implementation as a program method running on a controller *(Col. 19, Lines 55-56)*.

Although Strubbe considers a determination of continuing or ending a dialog *(stopping speech which may be based on an input from a speech input device, Col. 14, Line 58- Col. 15, Line 2)* and a means for determining an end of a user's speech based on a lack of speech criteria

(Col. 10, Lines 11-20), Strubbe does not explicitly disclose that a speech portion of a dialog interaction is utilized in determining whether to continue a dialog. Marx, however, recites utilizing a lack of speech period *(timeout)* for issuing a timeout and terminating a dialog session *(Col. 13, Lines 40-58; and Col. 14, Lines 1-8)*.

Strubbe and Marx are analogous art because they are from a similar field of endeavor in interactive spoken dialog systems. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Strubbe with the timeout criterion for terminating a dialog taught by Marx in order to provide an improved means for error handling *(Marx, Col. 3, Lines 5-22)*.

With respect to **Claim 2**, Strubbe further discloses:

Evaluation unit evaluates a consistency of said dialog *(determining a consistency of a user's speech through, for example, word count and tone, Col. 22, Lines 37-58)*; and

Output unit outputs said answer and/or a system's response *(text-to-speech converter for generating a spoken response, Col. 20, Lines 21-55; and Col. 25, Line 53- Col. 26, Line 18)*.

With respect to **Claim 3**, Strubbe discloses that a recognition unit recognizes speech and an output unit is a speech synthesizer, as applied to Claim 1.

Claim 4 contains subject matter similar to Claim 2, and thus, is rejected for the same reasons.

With respect to **Claim 5**, Marx further discloses determining a speech recognition unit error *(recognition error, Col. 13, Lines 40-58)*.

With respect to **Claim 6**, Marx discloses the timeout (i.e., time lapse) criterion as applied to Claim 1.

With respect to **Claim 7**, Strubbe further discloses:

The voice recognition unit recognizes said question from said user with robustness *(recognizing tone and word count in a user's utterance, Col. 22, Lines 37-67).*

With respect to **Claim 8**, Strubbe further discloses:

The voice recognition unit recognizes an accent or tone of said user *(recognizing tone in a user's utterance, Col. 22, Lines 37-67).*

With respect to **Claim 9**, Strubbe further discloses:

The voice recognition unit recognizes an accent or tone of said user *(ignoring non-relevant words, Col. 16, Lines 16-46).*

With respect to **Claim 10**, Strubbe further discloses:

The voice recognition unit recognizes said question from said user with a high response speed (recognizing and providing an immediate response to a user's utterance in a conversational interface, Col. 27, Line 41- Col. 28, Line 30).

With respect to **Claim 11**, Marx further discloses:

Determining whether to interrogate said user *(re-prompting a user a threshold number of tries prior to dialog termination, Col. 13, Lines 40-58; and Col. 14, Lines 1-8).*

With respect to **Claim 12**, Strubbe further discloses:

Selection unit further selects a speech pattern including the selected answer *(speech synthesis utilizing speech templates and recorded speech, Col. 9, Lines 1-62).*

With respect to **Claim 15**, Strubbe further discloses:

Vocabulary data base for storing a series of vocabularies in an order of use frequency, wherein said selection unit selects for said answer one of said vocabularies of the highest use

frequency *(priority based ordering of stored response templates based on frequency, Col. 18, Lines 18-37).*

With respect to **Claim 16**, Strubbe further discloses:

A response estimation unit for foreseeing a response from said user, wherein said selection unit selects for said answer on the basis of the foreseen result *(predicting a response based on predicted emotion data determined from input speech, Col. 22, Lines 37-67; and Col. 26, Lines 19-34).*

With respect to **Claim 19**, Strubbe discloses the question/answer dialog system as applied to claim 1, while Marx further discloses:

The evaluation unit evaluates a circumstance of said dialog; said selection unit selects and combines on the basis of the determination result said answer together with one of a plurality of dialog sentences for preventing said user from being displeased; and said voice synthesize unit outputs the combined sentence *(combining an apology voice prompt with a system response, Col. 13, Lines 40-58).*

With respect to **Claim 20**, Strubbe further discloses random answer prompt selection *(Col. 18, Lines 38-48).*

With respect to **Claim 21**, Marx further discloses:

The selection unit selects one of the dialog sentences on the basis of response time *(timeout, Col. 13, Lines 40-58).*

With respect to **Claim 32**, Strubbe further discloses:

A genre decision unit for selecting a field of topic, wherein said selection unit selects said answer within the decided genre *(determining and issuing an answer corresponding to a particular topic, Col. 15, Lines 41-67; and Col. 18, Lines 18-37).*

With respect to **Claim 37**, Strubbe further discloses:

Interrogating by using said voice synthesize unit, said user about said question from said user of which answer is not yet known to the system; and storing an answer of said question and scenario regarding the interrogation *(obtaining information on an unfamiliar answer, Col. 27, Line 41- Col. 28, Line 30; synthesized system queries presented to a user for obtaining answer information, Col. 10, Lines 10-62; and Col. 19, Lines 5-7; and text-to-speech converter for generating a spoken response, Col. 25, Line 53- Col. 26, Line 18).*

With respect to **Claim 38**, Strubbe further discloses:

Updating unit for updating and accumulating the answer words and scenarios obtained by said interrogation *(response data store, Col. 25, Lines 53-58 and storing user keywords and the responses used to elicit them, Col. 13, Lines 46-60).*

With respect to **Claim 39**, Strubbe further discloses:

A memory for storing a hysterisis of similar dialogs, wherein said updating unit chooses one of said scenarios which is most frequently used, when said scenarios are not consistent with each other *(storing the frequency of a particular topic and when no match exists selecting a past favorite topic, Col. 18, Line 18- Col. 19, Line 4).*

With respect to **Claim 40**, Strubbe further discloses:

The updating unit chooses an earlier scenario, when said scenarios are used at the same probability *(weighting uniform probabilities of conversation topics, so that an older topic of conversation will be selected, Col. 18, Lines 38-48).*

With respect to **Claim 41**, Strubbe further discloses:

The selection unit selects the system's response among said words and scenarios in accordance with a content of the user's response *(generating responses relevant to a user's questions and indicated interests, Col. 27, Line 41- Col. 28, Line 30, and Col. 13, Lines 48-60).*

With respect to **Claim 42**, Strubbe further discloses:

A sentiment recognition unit for analyzing the user's sentiment on the basis of the recognized user's voice, wherein said selection unit changes a tone for a selected system's response in accordance with said user's sentiment *(recognizing a user's emotional state based on speech and generating a system response that is consistent with an emotional climate of a conversation, Col. 11, Lines 28-67).*

With respect to **Claim 43**, Strubbe further discloses:

The sentiment recognition unit analyzes whether said user's sentiment is directed to the system or a general affair; and said selection unit changes a tone for a selected system's response in accordance with the analysis result *(determining user focus and using gaze information in generating a system response that is consistent with an emotional climate of a conversation, Col. 11, Lines 28-67).*

With respect to **Claim 48**, Strubbe further discloses:

A user's attribute determination unit for determining a user's attribute on the basis of a voice quality of said use, wherein said selection unit changes said voice quality for a selected

system's response in accordance with said attribute *(user attribute determination based on a voice print, which is used to generate a dialog, Col. 13, Line 61- Col. 14, Line 9).*

With respect to **Claim 49**, Strubbe further discloses user attributes related to height, age, gender, intelligence, etc. *(Col. 13, Line 61- Col. 14, Line 9).*

With respect to **Claims 50-51**, Strubbe further discloses dialog selection based on a user's attributes as applied to Claims 48-49.

With respect to **Claim 53**, Strubbe further discloses:

The system is a robot which comprises a plurality of cameras for picking up an image of user's face, thereby deciding a direction of said user's face; and said voice recognition unit starts executing a voice recognition, when said user's face is directed to said robot *(chatterbot, abstract, featuring a plurality of cameras, Fig. 1, Elements 135-136, and gaze recognition, which is used to determine when a user wishes to converse (i.e., activate a speech recognizer), Col. 10, Line 59- Col. 11, Line 9).*

With respect to **Claim 54**, Strubbe discloses the gaze recognition as applied to Claim 53 and further shows the plurality of cameras set up around a chatterbot head *(Fig. 1, Elements 135-136 and 175).*

With respect to **Claim 56**, Strubbe discloses determining when a user's face is facing (in front of) a chatterbot to begin a conversation interaction as applied to Claims 53-54.

14. **Claim 13** is rejected under 35 U.S.C. 103(a) as being unpatentable over Strubbe et al in view of Marx et al and further in view of Wiggins et al *(U.S. Patent: 4,439,161).*

With respect to **Claim 13**, Strubbe in view of Marx discloses the interactive dialog system as applied to Claim 4. Strubbe in view of Marx does not teach that a wrong answer is selected, however Wiggins recites an interactive device utilizing speech recognition that provides an incorrect answer to a user's question *(Col. 3, Line 15- Col. 4, Line 10)*.

Strubbe, Marx, and Wiggins are analogous art because they are from a similar field of endeavor in interactive speech recognition systems. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Strubbe in view of Marx with the concept of providing an incorrect answer to a user as taught by Wiggins in order to reinforce learning and allow a user a sense of satisfaction when a mistake is caught *(Wiggins, Col. 4, Lines 3-10)*.

15. **Claim 14** is rejected under 35 U.S.C. 103(a) as being unpatentable over Strubbe et al in view of Marx et al in view of Wiggins et al and yet further in view of Ishibashi *(USPTO translation of JP 06269534 A from 2/2007)*.

With respect to **Claim 14**, Strubbe in view of Marx and further in view of Wiggins discloses the interactive dialog system as applied to Claim 13. Strubbe in view of Marx and further in view of Wiggins does not teach that the interactive dialog system featuring speech recognition can be applied to a verses capping system. Ishibashi, however, recites a cap verses system that utilizes speech recognition and a loudspeaker to issue a word ending in 'n' and a game finishing signal *(Pages 5-6 and Fig. 1, Elements 3 and 6)*.

Strubbe, Marx, Wiggins, and Ishibashi are analogous art because they are from a similar field of endeavor in interactive speech recognition systems. Thus, it would have been obvious to

a person of ordinary skill in the art, at the time of invention, to modify the teachings of Strubbe in view of Marx and further in view of Wiggins with the verses capping system taught by Ishibashi in order to provide a practical application for an interactive dialog system that enables a user to play a shiritori game with a computer game machine *(Ishibashi, Purpose, Page 2)*.

16. **Claims 17-18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Strubbe et al in view of Marx et al and further in view of Stansvik *(U.S. Patent: 6,905,340)*.

With respect to **Claim 17**, Strubbe in view of Marx discloses the interactive dialog system utilizing a timeout feature as applied to Claim 4. Strubbe in view of Marx does not teach that a hint is issued after a timeout is reached, however, Stansvik discloses that a user is provided with a hint to a question after a certain time period has elapsed *(Col. 15, Lines 7-28)*.

Strubbe, Marx, and Stansvik are analogous art because they are from a similar field of endeavor in interactive systems utilizing speech recognition. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Strubbe in view of Marx with the means for providing a hint to a user as taught by Stansvik in order to provide additional features to assist a user in a learning process *(Stansvik, Col. 15, Lines 7-8)*.

With respect to **Claim 18**, Stansvik further discloses:

A difficulty degree set-up unit for fixing an intellectual level of said dialog, wherein the selection unit selects the answer on the basis of the difficulty degree *(difficulty level used in providing a response to a user, Col. 3, Line 53- Col. 4, Line 51)*.

17. **Claims 22, 28-29, and 34-36** are rejected under 35 U.S.C. 103(a) as being unpatentable over Strubbe et al in view of Marx et al in view of Wiggins et al and yet further in view of Ishibashi *(USPTO translation of JP 06269534 A from 2/2007)*.

With respect to **Claim 22**, Strubbe in view of Marx and further in view of Wiggins discloses the interactive dialog system as applied to Claim 19. Strubbe in view of Marx does not teach that the interactive dialog system featuring speech recognition that can be applied to a verses capping system utilizing stored word headings and endings. Ishibashi, however, recites a cap verses system that utilizes stored word heads and endings *(Pages 5-6 and Fig. 1, Elements 3 and 6)*.

Strubbe, Marx, and Ishibashi are analogous art because they are from a similar field of endeavor in interactive speech recognition systems. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Strubbe in view of Marx with the verses capping system taught by Ishibashi in order to provide a practical application for an interactive dialog system that enables a user to play a shiritori game with a computer game machine *(Ishibashi, Purpose, Page 2)*.

With respect to **Claim 28**, Ishibashi further discloses issuing an incorrect (defeat) response when a user utters a word ending in "n" *(Page 6)*.

With respect to **Claim 29**, Ishibashi discloses a means for adding vocabulary words at any time, for a larger capacity, wherein vocabulary words can be game-ending words ending in "n" *(Page 6)*.

With respect to **Claim 34**, Ishibashi further discloses:

The voice synthesize unit outputs said answer after a prescribed time interval after recognizing said question of said user, when a word of said answer begins from a prescribed head *(response timer for both a user and a game system and the system response having a same beginning as the ending of a user input word, Pages 5-6).*

With respect to **Claim 35**, Ishibashi further discloses:

The voice synthesize unit outputs said answer after a prescribed time interval after recognizing said question of said user, when said answer is one of prescribed words *(response timer for both a user and a game system and the correct system response having a same beginning as the ending of a user input word, Pages 5-6).*

With respect to **Claim 36**, Ishibashi further discloses:

When the system is defeated by said user: said selection unit selects one of words with a prescribed ending; or if there is not a word with said prescribed ending, said selection unit selects one of statements manifesting the system's defeat *(upon receiving a word ending in "n", to which there is no response, sending out a game termination message to a voice synthesis unit, Page 6; and Fig. 1, Elements 4 and 6).*

18. **Claim 23** is rejected under 35 U.S.C. 103(a) as being unpatentable over Strubbe et al in view of Marx et al in view Ishibashi and further in view of Norton et al *(U.S. Patent: 6,510,411).*

With respect to **Claim 23**, Strubbe in view of Marx and further in view of Ishibashi discloses the interactive dialog system for a capping verses system as applied to Claim 22. Strubbe in view of Marx and further in view of Ishibashi doses not teach the use of an XML

format, however Norton discloses the use of such a format in an interactive dialog system *(Col. 3, Lines 25-38)*.

Strubbe, Marx, Ishibashi, and Norton are analogous art because they are from a similar field of endeavor in interactive systems utilizing speech recognition. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Strubbe in view of Marx and further in view of Ishibashi with the XML format taught by Norton in order to provide a framework for describing task specific information *(Col. 3, Lines 25-38)*.

19. **Claims 24-25** are rejected under 35 U.S.C. 103(a) as being unpatentable over Strubbe et al in view of Marx et al in view Ishibashi and further in view of Archer *(U.S. Patent: 3,145,993)*.

With respect to **Claims 24-25**, Strubbe in view of Marx and further in view of Ishibashi discloses the interactive dialog system for a capping verses system as applied to Claim 22. Strubbe in view of Marx and further in view of Ishibashi does not specifically suggest that a wrong answer is selected based on an interaction count, however such game rules are well-known, as is evidenced by Archer *(erratically adjusting an occasion interval, which would effectively correspond to a number of interactions or turns, to make mistakes and let a user win, Col. 5, Lines 13-22)*.

Strubbe, Marx, Ishibashi, and Archer are analogous art because they are from a similar field of endeavor in interactive systems. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Strubbe in view of

Marx and further in view of Ishibashi with the means for letting a user win as taught by Archer in order to make a game more compatible for a younger player *(Archer, Col. 5, Lines 13-22).*

20. **Claims 26-27** are rejected under 35 U.S.C. 103(a) as being unpatentable over Strubbe et al in view of Marx et al in view Ishibashi in view of Archer and further in view of Koza et al *(U.S. Patent: 4,652,998).*

With respect to **Claim 26**, Strubbe in view of Marx in view of Ishibashi and further in view of Archer discloses the interactive dialog system for a capping verses system that allows a user to win, as applied to Claim 24-25. Strubbe in view of Marx in view of Ishibashi and further in view of Archer does not teach that a system difficulty (i.e., providing an incorrect answer in the case of Archer) is based upon a timer, however, Koza discloses such a timer-based difficulty *(Col. 5, Lines 18-48).*

Strubbe, Marx, Ishibashi, Archer, and Koza are analogous art because they are from a similar field of endeavor in interactive systems. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Strubbe in view of Marx in view of Ishibashi and further in view of Archer with the timer-based difficulty taught by Koza in order to give the player the illusion that a win or loss is dependent upon his/her skill *(Koza, Col. 5, Lines 18-48).*

With respect to **Claim 27**, Archer further discloses erratically changing the occasion of an incorrect response, as applied to Claims 24-25.

21. **Claims 30-31** are rejected under 35 U.S.C. 103(a) as being unpatentable over Strubbe et al in view of Marx et al in view Ishibashi and further in view of Nunes *(U.S. Patent: 6,793,498)*.

With respect to **Claim 30**, Strubbe in view of Marx and further in view of Ishibashi discloses the interactive dialog system for a capping verses game based on word endings as applied to Claim 22. Strubbe in view of Marx and further in view of Ishibashi does not teach continuing to wait for a user response even when a user's response is incorrect, however Nunes discloses the concept of allowing a user several retry attempts when a user is incorrect *(Col. 7, Lines 25-31)*.

Strubbe, Marx, Ishibashi, and Nunes are analogous art because they are from a similar field of endeavor in interactive systems. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Strubbe in view of Marx and further in view of Ishibashi with the concept of allowing a user several retry attempts when a user is incorrect as taught by Nunes in order to provide encouragement *(Nunes, Col. 7, Line 25)* in a capping verses game.

With respect to **Claim 31**, Ishibashi further discloses:

Another timer for counting a time lapse after completing outputting said answer, wherein said voice synthesize unit outputs a statement for prompting said user to respond *(output of an answer from a speaker that prompts a user to respond in a capping verses game and a response timer for both a user and a game system, Page 6)*.

22. **Claim 33** is rejected under 35 U.S.C. 103(a) as being unpatentable over Strubbe et al in view of Marx et al in view Ishibashi and further in view of Gasper et al *(U.S. Patent: 6,213,873)*.

With respect to **Claim 33**, Strubbe in view of Marx and further in view of Ishibashi discloses the interactive dialog system for a capping verses game based on word endings as applied to Claim 22. Strubbe in view of Marx and further in view of Ishibashi does not teach determining who takes a first turn, however Gasper teaches such a well-known electronic games concept *(Col. 8, Lines 6-16)*.

Strubbe, Marx, Ishibashi, and Gasper are analogous art because they are from a similar field of endeavor in interactive systems utilizing speech recognition. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Strubbe in view of Marx and further in view of Ishibashi with the means for turn determination as taught by Gasper to provide a further option that allows the overall flow of the game to be controlled *(Col. 6, Lines 37-38)*.

23. **Claims 44-47** are rejected under 35 U.S.C. 103(a) as being unpatentable over Strubbe et al in view of Marx et al and further in view of Butler et al *(U.S. Patent: 7,082,392)*.

With respect to **Claim 44**, Strubbe in view of Marx discloses the interactive dialog system utilizing a timeout feature as applied to Claim 43. Strubbe in view of Marx does not teach determining a system voice response based on a user's recognized provincialism, however Butler recites an interactive voice response system that analyzes a user's voice to determine a

locality and provides voice responses in an accent corresponding to the determined locality *(Col. 5, Lines 45-52; Col. 7, Lines 38-45; Col. 9, Lines 45-52; and Col. 10, Lines 13-20).*

Strubbe, Marx, and Butler are analogous art because they are from a similar field of endeavor in interactive speech recognition systems. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Strubbe in view of Marx with the locale identification means taught by Butler in order to enable multilingual functionality in a voice response system *(Butler, Col. 1, Lines 38-50).*

With respect to **Claim 45**, Butler further discloses:

The selection unit selects a system's response in accordance with local area of said provincialism *(locale used to selected a spoken response to a user, Col. 5, Lines 45-52).*

With respect to **Claim 46**, Butler recites an interactive voice response system that analyzes a user's voice to determine a locality and provides voice responses in an language corresponding to the determined locality *(Col. 5, Lines 31-52; Col. 7, Lines 38-45; Col. 9, Lines 45-52; and Col. 10, Lines 13-20).*

Claim 47 contains subject matter similar to Claim 45, and thus, is rejected for the same reasons.

24. **Claim 52** is rejected under 35 U.S.C. 103(a) as being unpatentable over Strubbe et al in view of Marx et al and further in view of Kondo et al *(U.S. Patent: 6,449,591).*

With respect to **Claim 52**, Strubbe in view of Marx discloses the interactive dialog system utilizing an interrogation means as applied to Claim 37. Although Strubbe further discloses the use of image recognition for emotion and gaze determination *(Col. 21, Lines 35-*

61), Strubbe in view of Marx does not specifically suggest the execution of lip reading for speech recognition, however such an application of image recognition is well-known in the speech recognition art, as is evidenced by Kondo (Col. 7, Lines 28-43).

Strubbe, Marx, and Kondo are analogous art because they are from a similar field of endeavor in interactive speech recognition systems. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Strubbe in view of Marx with the image recognition means taught by Kondo in order to improve the speech recognition rate *(Kondo, Col. 2, Lines 14-19)*.

25. **Claims 55 and 57** are rejected under 35 U.S.C. 103(a) as being unpatentable over Strubbe et al in view of Marx et al and further in view of Yoshida *(U.S. Patent: 6,708,081)*.

With respect to **Claim 55**, Strubbe in view of Marx discloses the interactive dialog system utilizing gaze detection as applied to Claim 53. Although Strubbe further discloses a single microphone set up around a chatterbot's head *(Fig. 1, Element 112)*, Strubbe in view of Marx does not specifically recite the use of a plurality of directional microphones, however Yoshida discloses the use of several directional microphones in a robot apparatus *(Col. 7, Line 62- Col. 8, Line 3)*.

Strubbe, Marx, and Yoshida are analogous art because they are from a similar field of endeavor in interactive speech recognition systems. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Strubbe in view of Marx with the use of several directional microphones taught by Yoshida in order to provide a further means for detecting a sound source *(Yoshida, Col. 7, Line 65- Col. 8, Line 3)*.

With respect to **Claim 57**, Strubbe discloses determining when a user's face is facing (in front of) a chatterbot to begin a conversation interaction as applied to Claims 53-54.

Conclusion

26. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Best (U.S. Patent: 5,358,259)- discloses a question and answer video game utilizing speech recognition.

Abella et al *(U.S. Patent: 6,044,347)*- discloses dialog management in a question-answer system.

Kanevsky et al *(U.S. Patent: 6,236,968)*- discloses an interactive dialog system.

Abe et al *("WebMessenger: A New Framework to Produce Multimedia Content by Combining Synthesized Speech and Moving Pictures in the WWW Environment," 1999)*- discloses a shiritori game utilizing text-to-speech conversion.

27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James S. Wozniak whose telephone number is (571) 272-7632. The examiner can normally be reached on M-Th, 7:30-5:00, F, 7:30-4, Off Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached at (571) 272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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3/13/2007

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